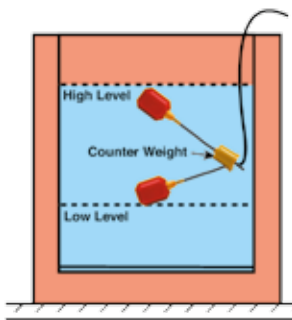


## FLOAT SWITCHES



Typical Application showing use of 1 B-01 float switch to start and stop pump. One B-01 Float Switch can be used for both high and low levels.

### Micro Float Switch



### Micro & Mercury Float Switches



### Mercury Float Switches



30mm Ø  
ideal for autoclaves

### Accessories



Not for use with Mercury Float Switches

#### MAG-W

1.5kg weight to hold MAG Float Switches down in tanks.

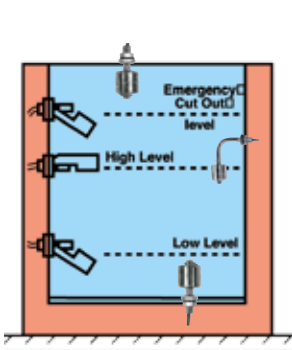


#### MER30/GP

1 1/4" male gland plug for use with MER30/5

Code	B-01/5	B-01/10	MAG-*	MER-*	REMEX-P	MER30/5
Length of cable	5metres	10metres	*Add 05, 10, 15, 20metres		1m Float Cord No cable	5 metres
Weight supplied	✓	✓	✓	N/A	✓	N/A
Switching Voltage Max.	240VAC/200VDC		220VAC		440VAC/200VDC	
Switching Current Max. (A)	4A		4A		5A	
Carry Current Max. (A)	15A		6A		10A	
Switch type	Micro C/O		Micro NO+NC		Mercury N.O.	
Operating Temperature	0-60°C		-20°C to 50°C		-20°C to 70°C	
Material	Polypropylene/Cable P.V.C.		Moplen/Cable P.V.C.		ABS.	
Resistance to:	Water & weak Acids		Water & weak Acids		Water	
					Water & weak Acids	

## Plastic Reed Float Switches



TYPICAL APPLICATION



Internal (Compression)  
LS-103-3  
Hole ø 20mm



RF-0V2



RF-0V41



FF-80EFM



FF-81EFM

Code	Internal LS-103-3	External LS-103-4	RF-0V2	RF-0V41	FF-80EFM	FF-81EFM
Mounting	Compression				Flange	M20
Thread size	M16	1/2" NPT	1/8" PF	M16	2" x 5kg/cm <sup>2</sup>	Connection Screw
Length of cable	300mm		300mm		300mm	
Switching Voltage Max.	240VAC/200VDC		240VAC/200VDC		240VAC/200VDC	
Switching Current Max. (A)	0,5A		0,5A		0,5A	
Carry Current Max. (A)	1A		1A		1A	
Switch type	Reed Switch N.O.		Reed Switch N.O.		Reed Switch N.O.	
Max. Pressure (kg/cm <sup>2</sup> )	4		1	4	10	
Operating Temperature	-20°C to 80°C		-20°C to 80°C		-10°C to 80°C	
Material	Polypropylene (PP)		Polypropylene (PP)		Polypropylene (PP)	
Suitable Specific Gravity	0,7 g/cm <sup>3</sup>		0,7 g/cm <sup>3</sup>		0,6 g/cm <sup>3</sup>	
Resistance to:	Water, Acids & Oils		Water, Acids & Oils		Corrosive liquids, i.e. Acids, Seawater etc	

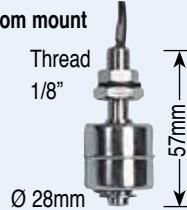
## STAINLESS STEEL FLOAT SWITCHES IP65



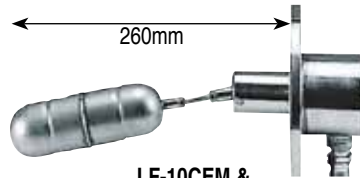
Side Mount  
RF-3002D



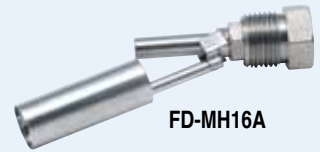
Top or bottom mount  
RF-3001



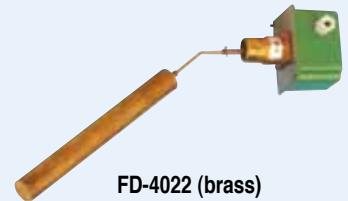
LF-10CEQ



LF-10CEM &  
FF-70SSS



FD-MH16A



FD-4022 (brass)

Code	Top/Bottom RF-3001	Side Mount RF-3002D	LF-10CEM	LF-10CEQ	FF-70SSS	FD-MH16A	FD-4022
Mounting							
Thread size	1/8" PF	1/8" PF	Flange	1 1/2" PT	Explosion Proof Flange	1/2" PT Adaptor	1"
Length of cable	300mm		-			300mm	-
Switching Voltage Max.	240VAC/200VDC		250VAC/200VDC			250VAC	
Switching Current Max. (A)	0.5A		2A			0.5A	5A
Carry Current Max. (A)	1A		5A			1A	16A
Switch type	Reed Switch N.O. or N.C.		Reed switch 1C/O			Reed switch N.O.	Micro Switch C/O
Max. Pressure (kg/cm <sup>2</sup> )	10		15kg/cm <sup>2</sup>	10 Bar		5kg/cm <sup>2</sup>	10 Bar
Operating Temperature	-20°C to 120°C		-25 to 100°C			-10 to 120°C	
Material	304 Stainless Steel		Housing: Aluminium IP65, Wetted parts 304 S/S			304 Stainless Steel	Brass
Suitable Specific Gravity	0.75 S.G.		0.65 S.G.	0.25 S.G.		0.8 S.G.	
Resistance to:	Water & Liquids		Water, Acids & Oils			Seawater, Corrosive Liq.	Non-Aggressive Liq.

## FLOW SWITCHES FOR WATER AND AIR

### Flow Switches for Water



### Flow Switch for Air



### Bargraph Panel Meter



Code	FS-80	FS-2533	AS-2614	PM5022R3 / PB-1471	1B94M-B
	<ul style="list-style-type: none"> <li>Housing material: Aluminium (IP65)</li> <li>Paddle material: 304 S/S</li> <li>Switch: SPDT, 1A @ 230VAC</li> <li>Operating temperature: -30 to 150 °C</li> <li>Operating pressure Max: 2000 PSI</li> <li>Pressure drop allowance: 3 PSI</li> <li>Set point tolerance: ±25%</li> <li>Repeatability difference: ±5%</li> <li>Connecting: 1" PT screw</li> <li>Weight: 850g</li> <li>Spare Paddle: <b>FS-80 PADDLE</b></li> </ul>	<ul style="list-style-type: none"> <li>3 Different Paddle lengths, 57, 88 &amp; 167mm</li> <li>Housing material: ABS (IP64)</li> <li>Paddle material: 304 S/S</li> <li>Switch: SPDT, 16A @ 230VAC</li> <li>Connecting: 1" PT screw Brass</li> <li>Operating temperature: -20 to 120 °C</li> <li>Operating pressure Max: 10kg/cm<sup>2</sup></li> <li>Set point tolerance: ±25%</li> <li>Repeatability difference: ±5%</li> <li>For piping 1" to 8"</li> <li>Adjustable setting</li> <li>Weight: 660g</li> <li>Spare Paddle: <b>FS-2533 PADDLE</b></li> </ul>	<ul style="list-style-type: none"> <li>Housing material: ABS (IP64) with steelbase</li> <li>Paddle material: Tinned S/S</li> <li>Brass Lever</li> <li>Switch: SPDT, 16A @ 230VAC</li> <li>Operating temperature: -20 to 80 °C</li> <li>Min cut-in value 2m/sec</li> <li>Min cut-out value 1m/sec</li> <li>Weight: 400g</li> </ul>	<p><b>PM5022R3</b></p> <ul style="list-style-type: none"> <li>Multirange input: 0-5V, 0-10V, 4-20mA, 20-4mA, 0-25.4mA</li> <li>4 point alarm (HH, H, L, LL) relay outputs (5A, 250VAC) and 4-20mA output</li> <li>Scaling function (0-1099)</li> <li>Alarm delay on/off 0-3 sec adj.</li> <li>Under/over range indication</li> <li>Accuracy 0.1%</li> <li>Built in 24VDC sensor voltage</li> <li>See page 32 for Level Sensors</li> </ul> <p><b>PB-1471</b></p> <p>As PM5022R3 but only 4 relay outputs and NO 4-20mA output</p> <ul style="list-style-type: none"> <li>Supply 85-265VAC</li> </ul>	<ul style="list-style-type: none"> <li>Input: 4-20mA</li> <li>Display: 0-100%</li> <li>Accuracy: 1%</li> <li>Response time: &lt;500mS</li> <li>Size: 96 x 24mm, Cutout: 92 x 23mm</li> <li>Complete with 230/24VDC power supply</li> </ul>

## VALVE & CONTROLLER FOR DUST COLLECTOR SYSTEMS



Type	2-10 Steps	2-40 Steps
<b>Code</b> Board only Size	<b>MOD-320/S</b> 195 x 130	<b>MOD-420/S</b> 195 x 130
<b>Code</b> Complete with box Size	<b>MOD-320/B</b> 250 x 200	<b>MOD-420/B</b> 320 x 250

1. Supply voltage: 110V or 220V  $\pm 10\%$ , 50/60Hz
2. Pulse Frequency Range of Adjustability: 2-60sec
3. Fuse: 3A 250VAC
4. Pulse Duration Range of Adjustability: 20-200ms
5. Number of sequenced steps: 2-10 steps
6. Operating Temp: 0-60°C

### Solenoid Valve (for air only)



Volts	Code 20mm	Code 25mm
230VAC:	<b>RDA20SC2</b>	<b>RDA25SC2</b>
110VAC:	<b>RDA20SC1</b>	<b>RDA25SC1</b>
Supplied complete with coil.		
Medium pressure 6kgs/cm <sup>2</sup>		
Medium Temperature 90°C		
Material: Aluminium		
<b>Spare Coil</b>		
<b>RDA-230VAC</b>		
<b>RDA-110VAC</b>		

## PROBE & ROTARY LEVEL SWITCHES

### Vibration Probe Switch



- Mounting Thread 1"
- Probe Material S/S 304
- Housing Alu. **IP65**
- Output: 5A @ 250V 1C/O
- Supply: 0-110-230VAC
- Vibrating Frequency: 360-370Hz
- Operating Temp.: -10 to 80°C
- Material Density: 0.32g/cm<sup>2</sup>

Spare Paddle

### Rotary Paddle Switch

For use in:  
Milk Powder, Cement, Fertilizer,  
Granulated products, etc.



**RP10C**



**RP80C**

SC1110	Code	RP10C	RP80C
<ul style="list-style-type: none"> <li>• Mounting Thread 1"</li> <li>• Probe Material S/S 304</li> <li>• Housing Alu. <b>IP65</b></li> <li>• Output: 5A @ 250V 1C/O</li> <li>• Supply: 0-110-230VAC</li> <li>• Vibrating Frequency: 360-370Hz</li> <li>• Operating Temp.: -10 to 80°C</li> <li>• Material Density: 0.32g/cm<sup>2</sup></li> </ul>	Mounting thread size	1"PF	3/4"PF
	Torque	0.5-1kg	30-100g/cm
	Specific Gravity	>0.50 S.G.	<0.3 S.G.
	Contact Type	Micro switch 1C/O	
	Contact Rating	5A	
	Operating Temp	-10 to 60°C	
	Housing Material	Aluminium <b>IP65</b>	
	<b>Code</b>	<b>RP10-PADDLE</b>	<b>RP80-PADDLE</b>

## MONITORING DEVICE FOR CONVEYORS

### Safety Cable Pull Switch



**NEW**

### Conveyor Belt Switch



**NEW**

### Speed Monitor



**NEW**

**ED400**

### Specification

- Measuring range: 0~999rpm
- 7-seg LED display: 0~999
- Alarm set point: 1~1999rpm by rotary switch
- Rotate direction: Counter clockwise or clockwise
- Alarm conditions: Underspeed, Standstill, Reverse, Power failure
- Speed analog output: 4~20mA
- Power supply: 85~265Vac, 50/60Hz
- Operating temperature: -20~70°C
- Housing: Cast Aluminium
- Protection **IP65**

### Features

- Speed monitor is a totally new rotational speed monitoring device.
- It uses the principle of photo detector and microprocessor to accurately calculate a wide range of rotational speeds.
- 3 Set points for alarm positions SW3, SW4 and SW2 for Rotary Switch.
- 1 Set point for Alarm Delay Switch.

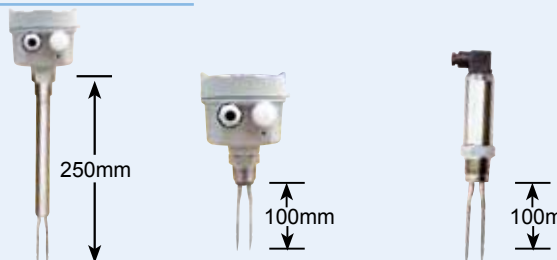
Code	SRS	SRT
<b>Specification</b>		
Switching Capacity	10A @ 250VAC SPDTx2	10A @ 250VAC VDC SPDTx2
Action Force	49 $\pm$ 9.8n (5 $\pm$ 1kgf.m)	3.4-5.4N.m (0.35-0.55kgf.m)
Reset Way	Manual	Auto
Ambient Temp	-20-60°C	-20-60°C
Enclosure Protection Grade	<b>IP67</b>	<b>IP67</b>
Enclosure Material	Die cast ADC	Die cast ADC
Weight Approx.	Approx. 2.9kg	Approx. 2.9kg
	Bi-direction pull switch and cable breakage safety switch.	Use for conveyor systems monitoring belt Misalignment.



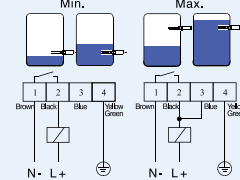
## TUNING FORK LEVEL SWITCH IP65

### Vibration Fork Level Switch

**NEW**



Code	SC3410-R	SC3400-R	SC2406-D
• Mounting Thread 1" PT			
• Probe Material 316			
• Housing Alu. <b>IP65</b>			
• Output: 5A @ 250V, N/C-N/O for SC3410-R & SC3400-R			• Output: 2Wire 3mA
• Supply Voltage: 20-250VAC, 50/60Hz VAC/DC			• Supply Voltage: 20-250VAC, 50Hz
• Vibrating Frequency 350~370Hz			• 2 Wire electronic switch
• Operating Temp in Bin: -40~130C			• Fork Length: 100mm
• Material Density: >0.07 g/cm <sup>3</sup>			• Operating Temperature: -40~60°C



## CAPACITIVE LEVEL SWITCH IP65

Wire probe

**NEW**




**Application**

- High temperature environment
- Corrosive environment
- Tank application

SA150A	SA111A-DQ-250	SA110A-DQ-150
L = 3m	L = 250mm	L = 150mm
• Mounting Thread 1"PT		
• Probe Material Stainless Steel 304		
• Housing Alu. <b>IP65</b>		
• Output: 5A @ 250V, Relay		
• Supply Voltage 110/230VAC 50/60Hz		
		• Sensitivity Range 10pf, STD
		• Operating Temp in Bin: -20°C - 60°C
		• Operating Pressure 20kg Cm3

## TWO WAY RADIO PMR 446

### General

#### Blister Kit includes:

- 2 x Radios
- 2 x Wall chargers
- 6 x AAA rechargeable batteries
- 2 x Belt clips

Can be used as a **BABY MONITOR**



### Semi-Professional

#### Kit includes:

- 2 x Radio
- 2 x Wall charger
- 2 x 800mA battery pack
- 2 x Belt clip
- 1 x Dual desktop charger



### Professional

#### Kit includes:

- 1 x Radio
- 1 x Desktop charger
- 1 x Wall charger
- 4 x Rechargeable batteries
- 1 x Belt clip



**WATERPROOF**

Code	G5 XT (Kit)	G7 XT (Kit)	G9	PACIFIC IPX5
Range	5.5km	8km	10-12km	10-12km
Channels	8 + 16 pre-programmed PMR446	8 PMR446, LPD69 Dual Band	Dual band 8 PMR446+16 pre-programmed	20 + 16 pre-programmed 156 to 162MHz
CTCSS & DCS tones	38 CTCSS	38 CTCSS	38 CTCSS, 104 DCS	38 CTCSS, 104 DCS
Operate with	3 rechargeable batteries 800mAh AAA Ni-MH	Battery pack 800mAh or 4 AA rechargeable batteries	4 rechargeable batteries AA 1800mAh or 4 AA alkaline (opt)	Battery pack 800mAh 1800mAh or 4 AA alkaline (opt)
Autonomy 5/5/90	Up to 35hrs with alkaline batteries	Up to 18hrs with 800mAh	Up to 12hrs with 800mAh	Up to 12hrs with 800mAh
Display	Backlit multi-function LCD	Backlit multi-function LCD	Backlit multifunction LCD	Backlit multifunction LCD
Transmission Power	PMR446 500mW ERP	PMR446 High (~500mW)	PMR446 High (~500mW)	5 Watt (1W/5W)
Dimensions (WxHxD)r	50 x 85 x 25mm	58 x 122 x 34mm	58 x 110 x 32mm	62 x 122 x 35mm
Working Temp	-20° to +55°C	-20° to +55°C	20° to +55°C	from -15° to +55°C
Weight	74g	123g	114g (without batteries)	137g

**Features:** Scan, Vox, Keypad lock, Roger Beep, Battery Indicator.

### Accessories



Code	R72701	R72005	MA28-L	AE38	MW904	ALG7	PB-ATL/G7	C785
Description	Belt Clip	Belt Clip	Microphone with earphone	Throat Microphone PTT or finger PTT	Wall Charger	Car Charger	Rechargeable Pack	Desktop Charger
Model	G5	G7, G9 & Pacific	All	All	All	G7, G9 & Pacific	G7, G9 & Pacific	G7

## GSM / TELEMETRY CONTROLLERS

### GSM Commander

Supply Voltage  
10-24VDC



A product range used for PLC-Type Telemetry applications. Allows users to be notified of remote events and enables the user to control remote equipment - all from a cellphone. No PLC required, complete standalone unit. Easy to configure and install.



GB-Series



GC-Series

Code	GB0101-*	GC0321-*	GC0641-*	GC1281-*
Type	Baby	Generic PLC	Generic PLC	Generic PLC
Onboard Inputs	1	2	2	2
Onboard Outputs	1	2	2	2
Max. Extendable I/O	none	12/12	22/22	32/32
No. of Statements	n/a	32	64	128
Setup Memory	n/a	2kB	4kB	8kB
0-100°C Probes Supported	0	2	2	2
0-10V Analogue Inputs	0	1	1	1
Battery/ Power Monitors	yes	yes	yes	yes
USB Configuration	no	yes	yes	yes
DTMF Decoder	no	no	yes	yes
SIM Card Slots	single	single	single	dual
Dimensions (mm)	127 x 73 x 28	148 x 86 x 28	148 x 86 x 82	148 x 86 x 28

\* Specify if you would like to order a kit or only a base unit. Add to code: **OEM** (base unit only) or **BOX** (kit including basic antennae, power supply, USB cable and software CD (GC-Series only)).

### Features

Digital Inputs:	Opto-isolated. Can accept DC signals of any type. (Dry Contacts, Open Collector (PNP/NPN), DC Voltage (10-20V)).
Digital Outputs:	SPDT 8A @ 10-48VDC or 4A @ 110-400VAC
Supply Voltage:	10-24VDC (12VDC) Can accommodate a 12V 1.2Ah backup battery. Code for battery <b>BATT1.2AH</b> . c/w built-in charger
Consumption:	60mA at idle (no inputs or outputs active)
DTMF Decoder:	If present the unit is able to detect and respond to key presses during a voice call.
SIM Card Slot:	If the unit only has one slot and the SIM card or network becomes faulty the unit will lose communication. If Dual, the unit can switch over to the secondary SIM card if it detects a problem, thus greatly enhancing reliability.
No. of Statements:	A measure of the complexity that can be programmed into the unit. Each statement is in the form IF <ABC Happens> THEN <do something>. eg. IF Input 1 goes active THEN send "Generator tripped" to 083 123 1234
Programming:	Unit can be programmed using the software supplied via USB or via SMS

### GSM Commander

Code	Description
<b>GX0505</b>	5 x Input and 5 x Output Expansion Module Dimensions: 147 x 103 x 28mm
Accessories	
Code	Description
<b>GT002</b>	Temperature interface to connect 2x temp. probes to "GC" units
<b>GT001-1</b>	Temperature probe for "GC" units 0-100°C 2m cable (requires GT002)
<b>GT001-2</b>	Temperature probe for "GC" units 0-100°C 4m cable (requires GT002)
<b>GA001</b>	Standard 0dBi dual-band antenna
<b>GA002</b>	3dBi Magnetic base antenna (for low signal strength areas)
<b>GA004</b>	5dBi Outdoor antenna
<b>DRA18-12</b>	1.25A 12V Regulated DIN mount power supply
<b>PSU1410</b>	1000mA 14V Switching Power Supply
<b>BATT1,2AH</b>	12V 1.2AH Sealed lead acid battery



GX0505



GT002



GT001-1



GT001-2



GA001



GA002



GA004

NEW

## TELEMETRY EQUIPMENT & SYSTEMS



SET-BD-BUS-ANT



BD-BUS



IN-8D

OUT-8D-REL



IN+OUT-2D-1A-I



DATA-CONFIG-KIT

### Bidirectional Wireless Set

Description	Code
Two transceivers and two omnidirectional antennas with connecting cables Power requirements: 5-30V AC/DC Range: 1.5km with omnidirectional 15km parabolic antenna Inputs: 4/4 digital in/out	SET-BD-BUS-ANT

### Transmitter

For expansion to point-to-multipoint connections and for repeater circuits Power requirements: 12-30VDC	BD-BUS
--	--------

### Expansion Modules

Digital Modules	
-8 x Digital input 5-30V AC/DC	IN-8D
-8 x Digital output, floating N/O contact	OUT-8D-REL

### Analogue/Digital Module

-2 x Digital Input 5-30V AC/DC -2 x Digital output, floating N/O contact -1 x In/Out Analog 4-20mA	IN+OUT-2D-1A-I
--	----------------

### Configuration Set

Consists of a Quick Start Guide, a user manual, RAD-Link software SUB-D9 interface cable on USB cable	DATA-CONFIG-KIT
--	-----------------

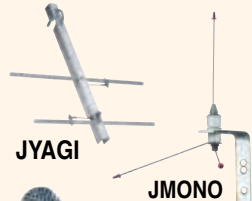
**International Ex-approval:** All expansion modules are certified with the 94/9/EU (ATEX) directives and IEC Ex and can therefore also be used internationally in potentially explosive areas



DPSU/3/12  
DPSU/3/14



SY1270



JYAGI

JMONO



TVA0008



APFD



TVA59551



SPA

### Integrated Transmitter and Receiver

Description	Code
Suitable for remote switching and monitoring, can also be used as a repeater station. Power requirements: 12VDC Inputs: 8 digital Outputs: 8 open collector 30Vdc max	JIO



JIO

### Power Supplies

3A 12V regulated power supply*	DPSU/3/12
Battery 7A/H 12VDC sealed lead acid	SY1270
*If used with a battery set at 13.6VDC	

### Accessories

3km loose antenna	JMONO
10km loose antenna	JYAGI
Aluminium antenna support pole	JSP
3m x 38mm dia. Wall mounting c/w bracket	SPA
Monopole aerial and solar panel, 3km range	RB-4L 12VDC
Relay interface board 4 x 10A 400V C/O contacts	RB-8L 12VDC
Relay interface board 8 x 10A 400V C/O contacts	TVA0008
Coax connector to JIO	APFD
Coax connector to JYAGI antenna	TVA59551
Coax connector female to female	RG59U
Coax cable per metre, 75Ω	

### Accessories

IP65 Gain 2dB	IP65 Gain 3dB
Omnidirectional antenna	Omnidirectional antenna

ANT-OMNI-2-1

ANT-VAN-3-0-SMA

IP55 Gain 6dB	IP55 Gain 8dB
Omnidirectional antenna	Panel antenna

ANT-OMNI-6-0

ANT-PAN-8-0

IP55 Gain 19dB	IP20
Parabolic Antenna	Surge Protection

ISM-2400 ANT-PAR-19-0

LAMBDA/4-2.0-BB

IP20	IP55 3m length
Antenna splitter	Antenna cable type EF 393

SPL-4-SMA

CAB-EF393-3M

### Transceiver Systems

A fully assembled system comprising of two transceiver stations, in polycarbonate enclosures, each complete with a JIO transceiver, power supply, battery back-up, antenna and support poles



Transmitter

Receiver

Description	Code
2 x 230VAC supply transceiver stations 3km range (monopole)	SYS-TX1
2 x 230VAC supply transceiver stations 10km range (YAGI)	SYS-TX2
1 x 230VAC + 1 solar supply transceiver stations 3km range	SYS-TX3
1 x 230VAC + 1 solar supply transceiver stations 10km range	SYS-TX4
Custom made systems are available to suit clients applications	



## BOREHOLE & PUMP CONTROLS



### Borehole Depth Tester

The water level meter is portable, sturdy and highly technological. Used for measuring water levels in tube wells, boreholes, tanks, etc.

Description	Code (scale 1m)	Code (scale 10cm)	Specifications
50 metre tester	<b>BDT-050</b>	<b>BDT-050/10</b>	Probe Material: Stainless steel AISI 303 Cable Reel Material: Steel Battery: 9 Volt, alkaline, type 6LR61 or similar
100 metre tester	<b>BDT-100</b>	<b>BDT-100/10</b>	
150 metre tester	<b>BDT-150</b>	<b>BDT-150/10</b>	
200 metre tester	<b>BDT-200</b>	<b>BDT-200/10</b>	<b>Features</b>
250 metre tester	<b>BDT-250</b>	<b>BDT-250/10</b>	<ul style="list-style-type: none"> <li>Integrated electronics with both light and sound indication</li> <li>Low power consumption • Long battery life</li> <li>Temperature insensitive • Probe 10mm Ø</li> </ul>



V1N-S



V2P



V3P

### Vigilec Pump Controllers **IP56**

Code	Description
<b>V1N-S</b>	Single pump control and protection unit for single and three phase pump, from 1 to 12 Amps AC3 230/400VAC

#### Features

- Polycarbonate enclosure **IP56**
- Anti motor jamming via 1 sec start period if pump idle for 24 hours
- Input for remote starting and stopping
- Manual and auto control
- Dry run protection via high and low probes

Code	Description
<b>V2P</b>	Dual pump control and protection unit with features as above for <b>V1N-S</b> but with controls for alternating the duty of the two pumps
<b>V3P</b>	Three pump control and protection unit with features as above for <b>V1N-S</b> but with controls for alternating the duty of the three pumps
<b>V2B</b>	As <b>V2P</b> but for Sump Pump Control up to 5.5kW 400VAC

## TELEMETRY SYSTEMS



THR-THR2-

### 600\* metre Transmitter and Receiver Kit

Power Supply: Transmitter 230VAC or 12VDC  
Receiver 230VAC

Operation: 6A relay output/s will stay made as long as transmitter input contact is closed

Description	Code
1 Channel Tx & Rx	<b>THR-300</b>
Above includes built in antennas for 600 metres. 433.94MHz 400mW	

#### Accessories

Description	Code
<b>YAGI*</b> antenna to increase range to 1.5km, use with one end only	<b>TYAGI</b>
Support pole for <b>YAGI</b> antenna	<b>SP-20</b>
Spare standard antenna	<b>TANT</b>

### 30km Transmitter and Receiver

Ideal for pump control, security and supervision applications

- Power Supply: 230VAC or 8 x 1.5V AA alkaline batteries
- Enclosure: Polycarbonate **IP65**
- Protection against lightning strikes
- Low battery detection and transmission

Transmitter	Code	Receiver	Code
2 Channel	<b>TAF-02T</b>	2 Channel	<b>TAF-02R</b>
5 Channel	<b>TAF-05T</b>	5 Channel	<b>TAF-05R</b>
8 Channel	<b>TAF-08T</b>	8 Channel	<b>TAF-08R</b>

All the above supplied with a standard antenna ±30km

#### Accessories

Description	Code
Support pole antenna	<b>SP-20</b>
Spare standard antenna	<b>TAF-ANT</b>
1.5V AA alkaline battery	<b>BA-1.5</b>



TAF-08R



TAF-08T

## BOREHOLE PUMP CONTROLS

### DOL Borehole Pump Control Panels with TE03 Pump Protection Relay

Protection features: Dry run, locked rotor, overload, phase failure/reversal/imbalance, over/under voltage, auto calibration for easy commissioning and LED array for full status indication.



Each control panel is supplied complete with an AC3 rated contactor, CT (where required), lightning arrestors, TE03 protection relay, "power on" and "pump run" neon indicating lights and an "ON-OFF" selector switch where no isolator is fitted. All 230V single phase panels have space provided within the enclosure to fit the capacitor control box which is supplied with the motor.

#### Options notes:

Pressure/Float switch control includes a 5VDC control circuit and connection terminals.  
Irrigation Controller control includes a 24VAC pump start relay with connection terminals.  
Enclosures: /S – Steel **IP55** orange; /P – **IP56** polycarbonate.

Order Code: **B**           Order Code example: **B09T/IS/PS/P V.**

#### Voltage and Motor size

##### For 400V 3 Phase motors

4kW	<b>09T</b>
5.5kW	<b>12T</b>
7.5kW	<b>18T</b>
11kW	<b>25T</b>

##### For 230V 1 Phase motors

1.1kW	<b>09S</b>
1.5kW	<b>12S</b>
2.2kW	<b>18S</b>

Other sizes available:

15kW (**32T**), 18.5kW (**40T**), 22kW (**50T**), 30kW (**65T**)

#### Isolator

Isolator fitted **IS**

#### Control Option

Select one only

Liquid level relay	<b>LL</b>
24h timer	<b>U</b>
Pressure/Float switch	<b>PS</b>
Irrigation controller	<b>IC</b>

#### Enclosure

<b>IP56</b> Poly	<b>P</b>
<b>IP55</b> Steel	<b>S</b>

#### Control Voltage\*

240V	<b>U</b>
415V	<b>N</b>

\*Wide range operating voltages



### Motorscope Pump Protection Relay

Effective protection of electric AC motors and their driven systems can be achieved by limiting the maximum as well as the minimum consumed motor power. The power consumption (kW) is calculated from the formula:  
 $P = \sqrt{3} \times V \times I \times \cos \phi$   
Motorscopes offer the finest pump protection and diagnostics available. Should a trip occur, the hand held Optimizer can be

connected to the Motorscope to download full information on the last 30 events. The Optimizer can then be taken back to the office and via Downloader, download the information to a PC for viewing, printing and analysis of the cause of the stoppage.

#### Downloader

Downloader comprises of PC software and hardware to download data from a Motorscope to a PC. It can also interface between Motorscope and PC for data logging and real time graphic display of parameters.

#### Optimizer

The Optimizer has two functions. For commissioning, it can modify a number of the factory default settings to optimize the Motorscope for each application as well as viewing every operational parameter. For maintenance, it can download the last 30 events from the Motorscope and, in turn, download the data to a PC via Downloader.

All Motorscopes mount directly on to DIN rail.

	Code	UNO	TRIO	SUPRA	B110*
		Single phase 230V 0.37kW to 2.2kW	Three phase 400V 0.37kW to 5.6kW	Three phase 400V 5.6 to 37kW	Industrial 230/400/110/525V 1000V*
Running dry, under load, blocked in/outlet	●	●	●	●	●
Overcurrent	●	●	●	●	●
Phase failure/Phase reversal	●	●	●	●	●
Phase imbalance	●	●	●	●	●
Overvoltage undervoltage	●	●	●	●	●
Star delta and soft start connection	●	●	●	●	●
Tank control (float/pressure sw.) 5VDC	●	●	●	●	●
Locked rotor	●	●	●	●	●
CT 250/1 supplied with unit	●	●	●	●	●



\*B110: Voltage conversion required for 1000V only **SPH1000V**.

\*B110 to be used where supply voltage and motor voltage differ e.g. motor 525V, control volts 110V. Specify control voltage with order.



Each control panel is fitted with an On-Off control switch, contactor, CT (where required) lightning arrestors, protection fuses, internal isolator and Motorscope relay in an **IP54** steel enclosure. Pump control is via a remote float or pressure switch.

### DOL Borehole Pump Control Panels with Motorscope Protection Relay

Motor	Volts	H x W x D	Code
Up to 5.6kW	400V	220 x 165 x 150	<b>TRIO-PANEL*</b>
Up to 5.6kW	400V	450 x 300 x 220	<b>TRIO-SP5,6</b>
7.5-11kW	400V	450 x 300 x 220	<b>SUPRA-SP11</b>
15-22kW	400V	450 x 300 x 220	<b>SUPRA-SP22</b>
30-37kW	400V	450 x 300 x 220	<b>SUPRA-SP37</b>

\*As TRIO-SP5,6 in plastic enclosure excluding isolator and protection fuses

Code	Description
<b>PANEL 5.5-BB</b>	Fitted with blac box
<b>PANEL 5.5-TRIO</b>	Fitted with Trio motorscope relay
<b>PANEL 5.5-01</b>	Fitted with TE01 phase angle relay + overload
<b>PANEL 5.5-02</b>	Fitted with TE02 phase angle relay



Economy borehole control panel up to 5.5kW 400V steel enclosure fitted with on-off control switch, lightning arrestors, isolator and contactor.

with cover removed



# PUMP AND MOTOR PROTECTION / PHASE ANGLE RELAYS

## TE SERIES phase angle and pump protection relays



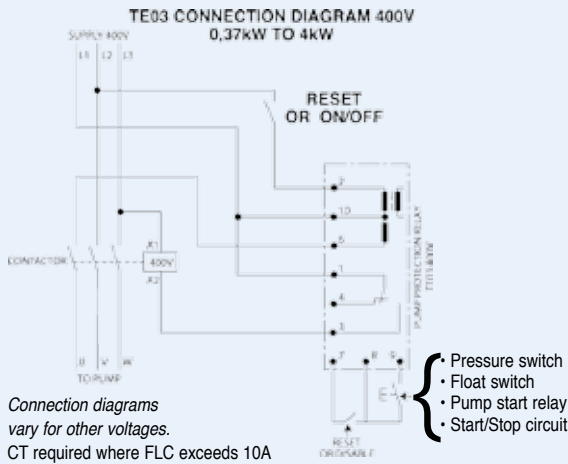
- TE01:** Phase angle protection only – running dry, underload and blocked in/outlet
- TE01/S:** TE01 for use with S-D or soft start.
- TE02:** Advanced borehole pump and motor protection – compact 11-pin construction. Auto calibration
- TE03:** TE02 with tank control and rapid start protection

## TE02/03 pump protection relay specifications

- Supply Voltage:** Single phase 230V  $\pm 20\%$ , Three phase: 400V  $\pm 20\%$ , 525V  $\pm 20\%$
- Power consumption:** 2VA
- Calibration:** Automatic – activated by pushbutton
- Dry trip level:** Calibrated phase angle and current – 10%, 2 seconds delay
- Voltage trip level:** Calibrated voltage  $\pm 10\%$ , 2 seconds delay
- Current trip level:** Calibrated current + 20%, 1 second delay
- Rapid cycle:** 3 starts per 15 minutes maximum (**TE03**)
- Dry restart delay:** Adjustable 15 minutes to 24 hours
- Output relay:** 10Amp SPDT @ 250VAC.



LED:	Green	Amber	Red	Status of TE02/TE03
	On	Off	Off	Normal pumping
	Flash	Off	Off	Dry - timing or phase failure/reversal
	Off	On	Off	Supply voltage low/high
	Off	Flash	Off	Rapid cycle
	Off	Off	On	Motor overload or phase failure
	On	On	On	TE02/3 uncalibrated
	Flash	Flash	Flash	TE02/3 calibrating
	Off	Off	Off	TE02/3 unable to calibrate



	TE01 230V or 400V	TE02 230 or 400V  525 or 1000V: control voltage to be specified	TE03 230 or 400V
Plug-in	●	●	●
Running dry, under load, blocked in/outlet	●	●	●
Overcurrent adjustable		Self Adjusting	Self Adjusting
Phase failure/reversal		●	●
Overvoltage/undervoltage		●	●
Star delta or soft-start connection	●*	●	●
Locked rotor		●	●
Shunt required	●	–	–
Rapid pump start protection cut out over 12 start/hour		–	●
LED status		●	●
Calibration	Man	Auto	Auto
Tank control (float switch)		–	●

\*TE01/S version only

For multiple pump applications, use one relay per pump.

## Current transformer selection for TE Series

		230V				400V										
	HP	0.36-1.1	1.5	2	3	0.5-1.5	2-7.5	10	15	20	25	30	40	50	60	75
	kW	0.25-0.75	1.1	1.5	2.2	0.37-1.1	1.5-5.5	7.5	11	15	18.5	22	30	37	45	55
TE01	Shunt	White				Red	White					White				
	CT code	—	PW155	PW205	PW255	—	—	PW205	PW305	PW405	DS-505	DS-755	DS-1005	DS-1505		
TE02/03	CT code	—	PW155	PW205	PW255	—	5.5KW PW155	PW205	PW305	PW405	DS-505	DS-755	DS-1005	DS-1505		

## Compact DOL Borehole Pump Control with contactor for motors up to 4kW @ 400V and 2.2kW @ 230V

Protection features: Dry run, locked rotor, overload, phase failure/reversal/imbalance, over/under voltage, auto calibration for easy commissioning and LED array for full status indication. Housed in compact IP56 Gewiss polycarbonate enclosure with glands and on/off switch.

Connection provided for pressure switch or tanktop float switch



Failsafe design.



## Code

### Borehole DOL Starter with TE02 Protection

<b>TE05M</b>	Pump controller for 230V single phase motors up to 0.75kW
<b>TE05M-1</b>	Pump controller for 230V single phase motors for 1.1 to 2.2kW
<b>TE05Q</b>	Pump controller for 400V three phase motors up to 4kW
<b>TE05Q-1</b>	Pump controller for 400V three phase motors for 5.6kW

### Centre Pivot Shut Down Kit

Add on kit to your existing centre pivot control panel to prevent overwatering should the pivot arm get stuck or percentage timer malfunction. Kit is supplied with CT-5 with flying leads for simple installation.

EVCT1

Centre Pivot Shut Down Kit

## POOL BOXES

NEW DESIGN

IP42



SBX-1/3/6/7/8

IP65



SBX-4/5  
cover removed



SBX-2



SBX-4A/5A  
cover removed



SBX-10

### Swimming Pool Boxes

Code	Description
SBX-1*	For standard pools with one light: Complete with 120VA transformer, DIN isolator, 2 x circuit breakers and 24 hour time switch. <b>IP42</b>
SBX-2*	For standard pools with one light plus the added convenience of a socket outlet for garden appliances. Complete with 120VA transformer, DIN isolator, 3 x circuit breakers, 24 hour time switch and 15A socket outlet. <b>IP42</b>
SBX-2*T	As per SBX-2 above, but with timed socket outlet. <b>IP42</b>
SBX-3	SPA D/B Board no wiring: Complete with DIN isolator, 2 x 20A circuit breakers, one x 4kW contactor and 24 hour timer SD Type. <b>IP42</b>
SBX-4*	As per SBX-1, completely weatherproof. <b>IP65</b>
SBX-4A*	As per SBX-4 but with 15A socket outlet. <b>IP65</b>
SBX-5*	As per SBX-4, but with 300VA transformer for two lights. <b>IP65</b>
SBX-5A*	As per SBX-5, but with 15A socket outlet. <b>IP65</b>
SBX-6	For large pools with two lights: Complete with 300VA transformer, DIN isolator, 2 x circuit breakers and 24 hour time switch. <b>IP42</b>
SBX-7	For Jacuzzis with no light: Complete with isolator, pump CB and timer, plus 20A CB and relay for heating. <b>IP42</b>
SBX-8	For vinyl surface pools and other pools without a light: Complete with DIN isolator, 1 x circuit breaker and 24 hour time switch. <b>IP42</b>
SBX-10	SPA D/B Board no wiring. Complete with DIN isolator, 2 x 20A circuit breakers, one x 4kW contactor and 2 x 24 hour digital timer (TH-857-2 type, see page 17), in a Gewiss Box. <b>IP65</b>

\*Add **BND** (BND-X5) or **SD** (SD or DD Orbis timer) for required timer.  
See page 18 for specification of timers.

## READY BOARDS

NEW DESIGN



RB-1



RB-2

### Ready Boards RB-1

- 3 x 15A switched socket outlets
- 1 x 40A DP earth leakage
- 2 x 20A SP CB for socket outlets

### Ready Boards RB-2

- 3 x 15A switched socket outlets
- 1 x 40A DP earth leakage
- 1 x 10A SP CB for lights
- 2 x 20A SP CB for socket outlets

Code	Size H x W x D	Description
RB-1	330 x 245 x 90	No Bulkhead with 40A DP earth leakage
RB-2	455 x 245 x 90	With Bulkhead no lamp with 40A DP earth leakage
RB-2A	455 x 245 x 90	With Bulkhead no lamp with 63A DP earth leakage

## POOL FILTERS

### Pool Filter

Code Top Valve	Code Side valve	Filter Area	Max Flow Rate	Sand
PL-500	PL-500S	0.22m <sup>2</sup>	10.8m <sup>3</sup> /h	85kg/ 2 bags
PL-650	PL-650S	0.31m <sup>2</sup>	15.3m <sup>3</sup> /h	145kg/ 4 bags
PL-700	PL-700S	0.39m <sup>2</sup>	19.2m <sup>3</sup> /h	210kg/ 5 bags

### Accessories

Code	Description
HT-815	Top mount valve 1½"/ 50mm unions
HT-915	Side mount valve 1½"/ 50mm unions

- Suitable for residential pools and fish ponds
- Maximum working pressure: 200kPa
- Easy to use multipoint valve allows easy selection of valve/ filter operations.
- Valve/ filter operations: filter, backwash, rinse, waste, closed, recirculate.
- Valve connections: 1½/ 50mm



PL-500

PL-500S



HT-815



HT-915

## PUMPS



### Hydrospheres

Code	Description	Spare Bladders
TNK24	24 litre vertical Pump Mounting	BLA24
TNK24H	24 litre horizontal Free Standing	BLA24H
TNK24H-SS	24 litre Stainless Steel horizontal Free Standing	BLA24H
TNK50	50 litre vertical Free Standing	BLA50
TNK50H	50 litre horizontal Free Standing	BLA50H
TNK100	100 litre vertical Free Standing	BLA100
TNK200	200 litre vertical Free Standing	BLA200
TNK300	300 litre vertical Free Standing	BLA300
TNK500	500 litre vertical Free Standing	

To be used with **PS-02A 2.8** pressure switch



### Accessories

**3WAY** 3-way Brass connector

**5WAY** 5-way Brass connector



**FH60** 1" BSP x 60cm long flexible hose (s/s)



GGE6R & 10R

**GGE6R** 40mm ø 6 BAR Pressure Gauge, rear fitting

**GGE6B** 40mm ø 6 BAR Pressure Gauge, bottom fitting



GGE6B & 10B

**GGE10R** 40mm ø 10 BAR Pressure Gauge, rear fitting

**GGE10B** 40mm ø 10 BAR Pressure Gauge, bottom fitting

### Pressurestat – DSK-2

Assembled to a pump it supplies constant pressure. Electronic controls prevent starting in the absence of water, and the reduction of water hammer. Does not require any maintenance or air – pre-charge.

#### Applications:

• Specially designed for the automatic supply of water to one or more buildings. Also suitable for operation with water containing a small quantity of sand. • **DSK-2** replaces the use of costly hydrospheres and pressure switches in many systems.



Code	DSK-2	DSK-2.1
Voltage	230V	230V
Max. Amperage	10A	10A
Protection	<b>IP65</b>	<b>IP65</b>
Max. Pressure	10 bar	10 bar
Starting Pressure	1.5 bar	1.5-2.5 bar adj.
Stopping Pressure	The maximum given by the pump	
Differential Pressure	≥ 0.7 bar	≥ 0.5 bar
Max. Flow	12 m³/h	12 m³/h
Max. Building Height	15m	15-25m
Inlet Thread Ø	1" male	1" male
Outlet Thread Ø	1" male	1" male



**FLO-1** 3 metre 8A Float Switch 1C/O

**FLO-2** 3 metre 8A Float Switch 1C/O

- c/w weight
- Internal Micro Switch



FLO-1

FLO-2

### Pressure Switches



PS-02A



PS-02B

Pressure (Bar)		Contact Rating	Pipe Thread (NPT)	Code
Min.	Max.			
1.4	2.8	2 Pole 20A N/C	1/4"	<b>PS-02A 2.8</b>
2.1	3.5	2 Pole 20A N/C	1/4"	<b>PS-02A 3.5</b>
2.8	4.3	2 Pole 20A N/C	1/4"	<b>PS-02A 4.3</b>
3.5	5.6	2 Pole 20A N/C	1/4"	<b>PS-02B 5.6</b>
4.9	7.2	2 Pole 20A N/C	1/4"	<b>PS-02B 7.2</b>

**CON**

FLO-5

UKV70-AB



**Code** UKV70-AB

#### Float Switch

Temp: -30°C to 80°C  
Contacts: 4A @ 250VAC  
N/O Mercury Switch

**Code** FLO-5

#### Float Switch

Temp: -30°C to 80°C  
Contacts: 4A @ 250VAC  
N/O Mercury Switch



## SWIMMING POOL PUMPS

**2 YEAR WARRANTY  
ON SILEN PUMPS**  
(excl. non-plastic  
mechanical parts  
(bearing & Mech Seals))



Quiet running single-stage centrifugal pump, self-priming up to 4m.

### Features

- Complete with pre-filter and clear cover.
- Mechanical seal.
- Suction and discharge Ø 2 1/4"

### Materials

- Pump body, pump foot, diffuser, impeller and seal mounting in technopolymer.
- Motor shaft stainless steel.
- Mechanical seal in graphite and aluminium.
- Motor housing in aluminium.

### Motor

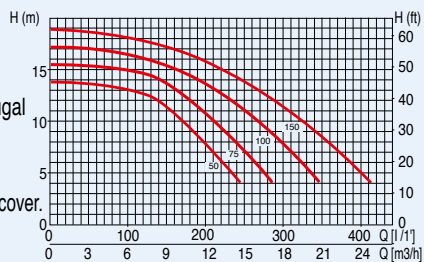
- Built-in thermal overload protection on single phase models.
- Class F insulation.
- IP55 protection.
- Continuous operation.

### Application

- Specially designed for the recycling and filtering of swimming pool water.

### Silen Pumps

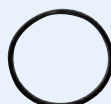
Code	kW	HP	Volts
SILEN 50M	0.37	0.5	230V
SILEN 75M	0.55	0.75	230V
SILEN 100M	0.75	1.0	230V
SILEN 150M	1.12	1.5	230V
SILEN 100	0.75	1	400V
SILEN 150	1.12	1.5	400V



### Accessories



SILEN COVER



SILEN O-RING

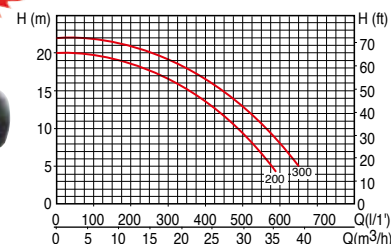


SILEN BASKET



SILEN COUPLING

### Tifon 1



Code	Volts	kW	HP
TIFON1 200	400V	1.5	2
TIFON1 200M	230V	1.5	2
TIFON1 300	400V	2.2	3
TIFON1 300M	230V	2.2	3

### Features

- Quiet running single stage pump
- Self priming
- c/w Pre-filter
- Inlet/Outlet size: 2 3/4"

### Materials

- Pump body, pump foot, diffuser, impeller and seal mounting in technopolymer.
- Motor shaft stainless steel.
- Mechanical seal in graphite and aluminium.
- Motor housing in aluminium.

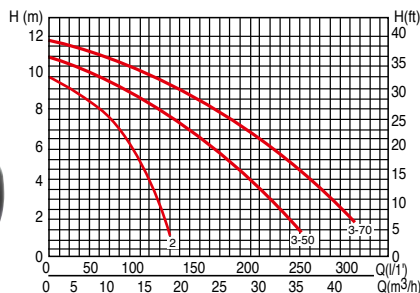
### Motor

- IP55 protection
- Continuous rated
- Class F insulation
- Single phase with built in thermal protection

### Application

Recycling and filtering of large pools.

### Piscis (230V)



Code	Flow Rate	kW	HP
PISCIS2	15-115l/min	0.18	0.25
PISCIS3 50M	20-250l/min	0.37	0.5
PISCIS3 70M	20-300l/min	0.56	0.75

### Features

Quiet running single stage centrifugal pumps for the recirculation of water in aquariums and fish hatcheries.

### Materials

- Pump body and pump foot in glass loaded polypropylene.
- Impeller in glass loaded noryl.
- Mechanical seal in graphite and steatite.
- Metallic parts in 316 stainless steel.
- Shaft in 316 stainless steel and iron
- Motor housing in aluminium

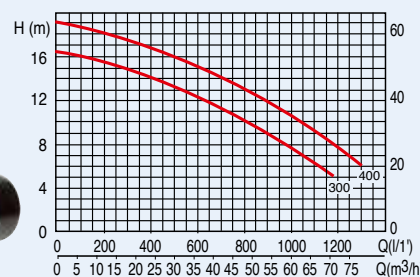
### Motor

- IP55 protection
- Continuous rated
- Class F insulation
- Built in thermal protection

### Application

- Specially designed for operation in sea water and to be resistant to fish excrement.

### Nadorself



Code	Volts	kW	HP
NADOR 300M	230V	3	4
NADOR 300	400V	3	4
NADOR 400	400V	3.4	4.5

### Features

Single impeller centrifugal pump specifically designed for jet-stream currents with flows up to 75m³/h with 2 drainage spouts on hydraulic casing. Adjustable impulsion. Inlet/outlet size: 2 1/2"

### Material

- Pump casing and base, diffuser, impeller and seal mounting in techno polymer.
- Stainless steel drive shaft (A1S1 420).
- Mechanical seal in graphite and aluminium.

### Motor

- IP55 protection
- Continuous rated
- Class F insulation
- Single phase with built in thermal protection

### Application

To swim against the current in public or private swimming pools.

## CAST-IRON CENTRIFUGAL PUMPS

**PER Single-stage**



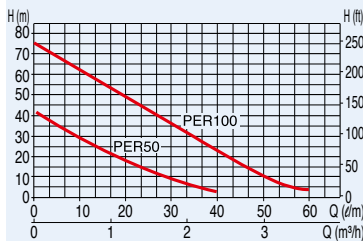
230V	kW	HP
PER 50M	0.37	0.50
PER 100M	0.75	1.00

### Features

Centrifugal peripheral pumps specially designed to get high performance with low power.

### Materials

- Pump body and pump motor support in cast iron.
  - Impeller in brass.
  - Built-in mechanical seal.
  - Motor shaft in stainless steel.
  - Metallic fan cover.
  - Fan in plastic material.
- Inlet/Outlet size: 1"



**JET**



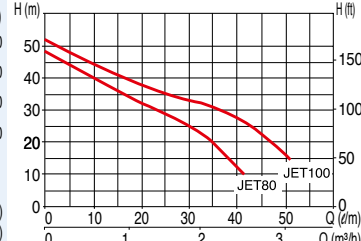
230V	400V	kW	HP
–	JET 100	0.75	1.00
JET 100M	–	0.75	1.00

### Features

Self-priming centrifugal pumps with venturi system. Self-priming up to 9m. Suction and discharge Ø: 1" female.

### Materials

- Pump body in cast iron.
- Pump motor support in aluminium.
- Impeller in noryl or brass.
- Diffuser and Venturi system in noryl reinforced with fibreglass.
- Built-in mechanical seal.
- Motor shaft in stainless steel.
- Metallic fan cover.
- Fan in plastic material.



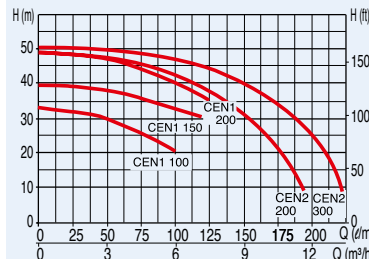
**CEN1 & 2 Single-stage**



230V	400V	kW	HP
CEN1 100M	–	0.75	1.0
CEN1 160M	CEN1 160	1.1	1.5
CEN2 210M	CEN1 210	1.5	2
–	CEN2 300	2.2	3

### Materials

- Pump body and pump motor support in cast iron.
- Shaft in stainless steel.
- Impeller in noryl reinforced with fibreglass for CEN1 and CEN2 pumps.
- Brass impeller available on request.
- Built-in mechanical seal.
- Metallic fan cover.
- Fan in plastic material.



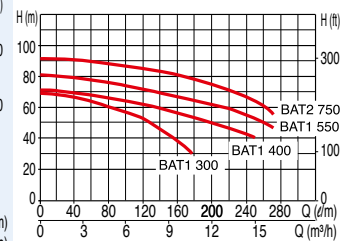
**BAT1 Twin impeller**



400V	kW	HP
BAT1 310	2.2	3
BAT1 400	3	4
BAT1 550	4	5.5
BAT2 750	5.5	7.5

### Materials

- Pump body and pump motor support in cast iron.
- Motor shaft in stainless steel.
- Twin impellers in brass alloy.
- Built-in mechanical seal.
- Metallic fan cover.
- Fan in plastic material.



**NOR1**



**NOR2**



230V	400V	kW	HP
NOR1 200M	NOR1 200	1.5	2
NOR1 300M	NOR1 300	2.2	3

### Features

Centrifugal pumps that combine medium head with medium high delivery. Quiet operation.

### Materials

- Pump body and pump motor support in cast iron.
  - Motor shaft in stainless steel.
  - Impeller in brass alloy.
  - Built-in mechanical seal.
  - Metallic fan cover.
  - Fan in plastic material.
- Inlet/Outlet size: 2"

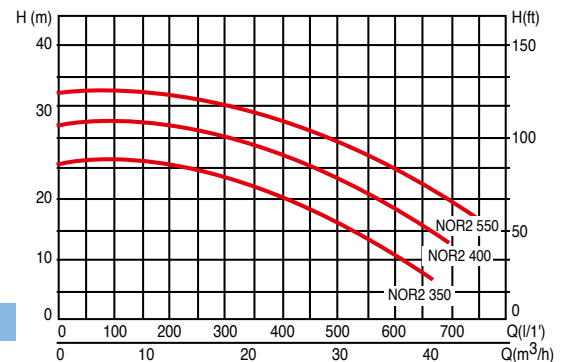
230V	400V	kW	HP
NOR2 350M	NOR2 350	2.2	3
NOR2 400M	NOR2 400	3	4
	NOR2 550	4	5

### Features

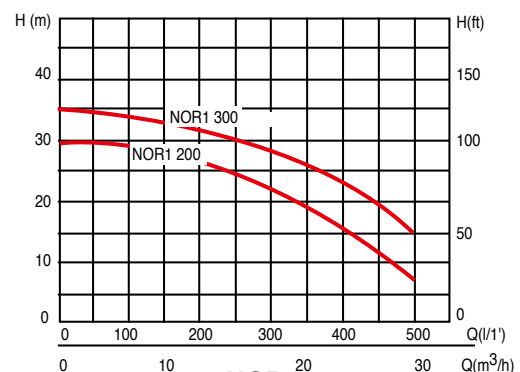
For applications requiring high flows at low or medium pressure.

### Materials

- Pump body and pump motor support in cast iron.
  - Motor shaft in stainless steel.
  - Impeller in cast iron.
  - Built-in mechanical seal.
  - Metallic fan cover.
  - Fan in plastic material.
- Inlet: 3" Outlet size: 2"



**NOR2**



**NOR1**

## MULTI-STAGE BOOSTER PUMPS

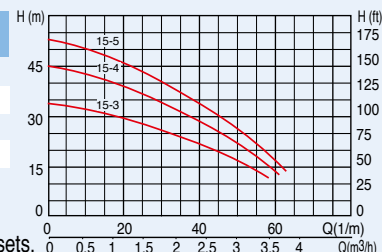
**ASPRI 15** - Quiet running multi-stage centrifugal pumps. Built-in selfpriming valve, not very sensitive to the impurities. Self-priming up to 9 m.



Code	ASPRI 15-3M	ASPRI 15-3	ASPRI 15-4M	ASPRI 15-4	ASPRI 15-5M	ASPRI 15-5
kW	0.37	0.37	0.55	0.55	0.75	0.75
HP	0.50	0.50	0.75	0.75	1.00	1.00
V	230	400	230	400	230	400
Q-l/min	5-50	5-50	5-50	5-50	5-60	5-60
H(m)	33-17m	33-17m	44-21.5m	44-21.5m	53-17m	53-17m

**Application:**

To work with clean water in domestic applications, irrigation, and hydropneumatic sets.



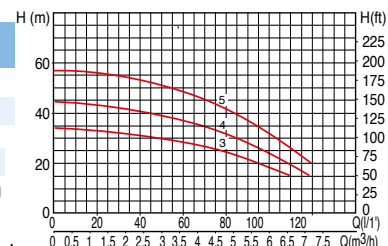
**ASPRI 25** - Quiet running multi-stage centrifugal pumps. Built-in selfpriming valve, not very sensitive to the impurities. Self-priming up to 9 m.



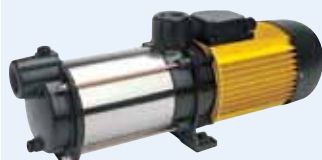
Code	ASPRI 25-3M	ASPRI 25-4M	ASPRI 25-4	ASPRI 25-5M	ASPRI 25-5
kW	0.75	0.92	0.92	1.12	1.12
HP	0.56	1.25	1.25	1.50	1.50
V	230	230	400	230	400
Q-l/min	15-105	15-120	15-120	15-120	15-120
H(m)	33-17m	43-14.5m	43-14.5m	56-20m	56-20m

**Application:**

To work with clean water in domestic applications, irrigation, and hydropneumatic sets.



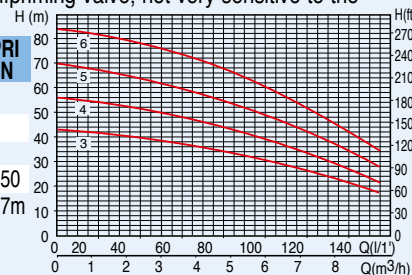
**ASPRI 35N** - Quiet running multi-stage centrifugal pumps. Built-in selfpriming valve, not very sensitive to the impurities. Self-priming up to 9 m.



Code	ASPRI 35-3MN	ASPRI 35-3N	ASPRI 35-4MN	ASPRI 35-4N	ASPRI 35-5MN	ASPRI 35-5N	ASPRI 35-6N
kW	0.75	0.75	1.12	1.12	1.50	1.50	2.20
HP	1.00	1.00	1.50	1.50	2.00	2.00	3.00
V	230	400	230	400	230	400	400
Q-l/min	20-150	20-150	20-150	20-150	20-150	20-150	20-150
H(m)	41-18m	41-18m	54-23	54-23m	68-30m	68-30m	81-37m

**Application:**

To work with clean water in domestic and industrial applications, irrigation, and hydropneumatic sets.



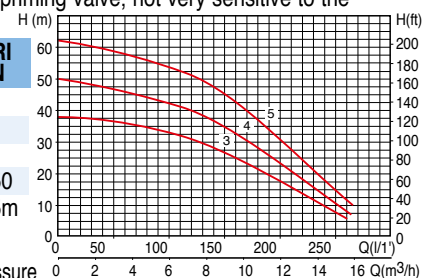
**ASPRI 45N** - Quiet running multi-stage centrifugal pumps. Built-in selfpriming valve, not very sensitive to the impurities. Self-priming up to 9 m.



Code	ASPRI 45-3MN	ASPRI 45-3N	ASPRI 45-4MN	ASPRI 45-4N	ASPRI 45-5N
kW	1.12	1.12	1.50	1.50	2.20
HP	1.50	1.50	2.00	2.00	3.00
V	230	400	230	400	400
Q-l/min	25-250	25-250	25-250	25-250	25-250
H(m)	37-8m	37-8m	48-11m	48-11m	61-15m

**Application:**

To work with clean water in domestic and industrial applications, irrigation, and pressure sets.



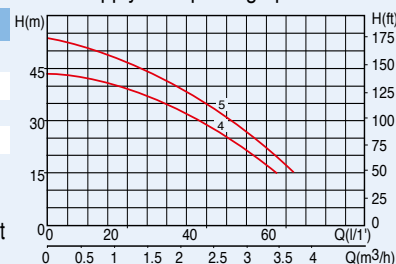
**TECNOPRES 15** - Quiet running horizontal multi-stage centrifugal pumps, with selfpriming valve resistant to impurities, dry run protection and device to ensure pressure water supply. Self-priming up to 9 m.



Code	TECNOPRES 15/4M	TECNOPRES 15/5M
kW	0.55	0.75
HP	0.75	1.00
V	230	230
Q-l/min	5-50	5-60
H(m)	44-21.5m	53-17m

**Application:**

To supply water at pressure in domestic applications. With protection to prevent the pump from operation when dry.



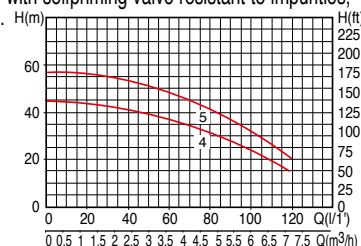
**TECNOPRES 25** - Quiet running horizontal multi-stage centrifugal pumps, with selfpriming valve resistant to impurities, dry run protection and device to ensure pressure water supply. Self-priming up to 9 m.



Code	TECNOPRES 25/4M	TECNOPRES 25/5M
kW	0.92	1.12
HP	1.25	1.50
V	230	230
Q-l/min	15-120	15-120
H(m)	43-14.5m	46-20m

**Application:**

To supply water at pressure in domestic applications. With protection to prevent the pump from operation when dry.





## MULTI-STAGE BOOSTER PUMPS

**NEW**

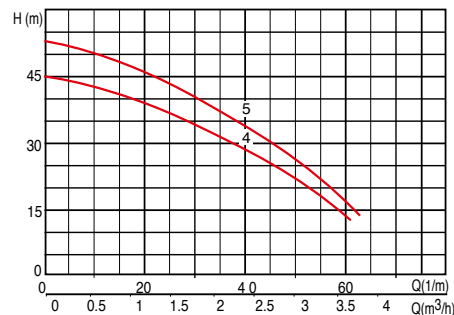


**TECNOSELF 15** - Quiet running horizontal multistage centrifugal pumps, with self-priming valve resistant to impurities. Self-priming up to 9 m.

Code	TECNOSELF 15/4M	TECNOSELF 15/4	TECNOSELF 15/5M	TECNOSELF 15/5
kW	0.55	0.55	0.75	0.75
HP	0.75	0.75	1.00	1.00
V	230	400	230	400
Q-l/min	5-50	5-50	5-60	5-60
H(m)	44-21.5m	44-21.5m	53-17m	53-17m

**Application:**

To work with clean water in domestic applications, irrigation, and pressure sets.



**NEW**

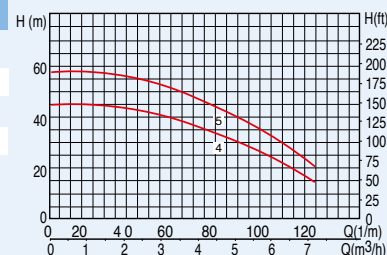


**TECNOSELF 25** - Quiet running horizontal multistage centrifugal pumps, with self-priming valve resistant to impurities. Self-priming up to 9 m.

Code	TECNOSELF 25/3M	TECNOSELF 25/4M	TECNOSELF 25/4	TECNOSELF 25/5M	TECNOSELF 25/5
kW	0.75	0.92	0.92	1.12	1.12
HP	1.00	1.25	1.25	1.50	1.50
V	230	230	400	230	400
Q-l/min	15-105	15-120	15-120	15-120	15-120
H(m)	33-17m	43-14.5m	43-14.5m	56-20m	56-20m

**Application:**

To work with clean water in domestic applications, irrigation, and pressure sets.



**NEW**

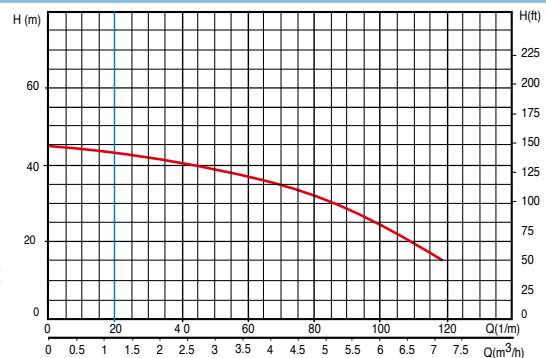


**TECNOTIMER 25** - Quiet running horizontal multistage centrifugal pumps. Self-priming valve resistant to impurities, dry run protection and non-return valve to guarantee the pump's priming. Self-priming up to 9 m. C/w programmer for 4 sprinkler programs with 4 independent weekly programs.

Code	kW	HP	V	Q-l/min	H(m)
TECNOTIMER 25/4M	0.92	1.25	230	15-120	43-14.5m

**Application:**

Programmed sprinklers irrigation per areas and supply of water at pressure.



**NEW**

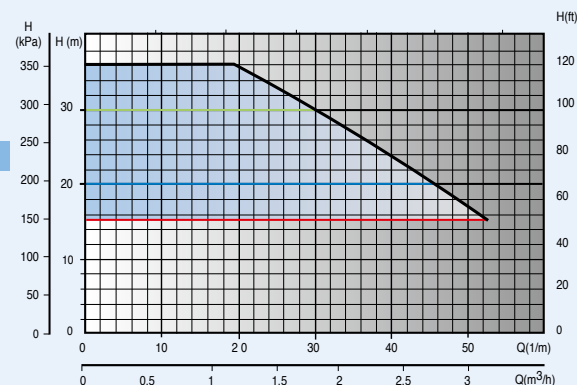


**TECNOPLUS** - Horizontal multistage centrifugal pump with electronic regulation ESD (Espa Speed Driver) and speed control with pressure sensor included; built in with dry running protection. No maintenance required and without water hammer in the installation.

Code	kW	HP	V	Q-l/min	H(m)
TECNOPLUS M	0.55	0.75	230	10-50	35-15m

**Application:**

Compact unit with constant pressure for domestic applications without fluctuations. Easy to install. Plug & pump design.



**NEW**

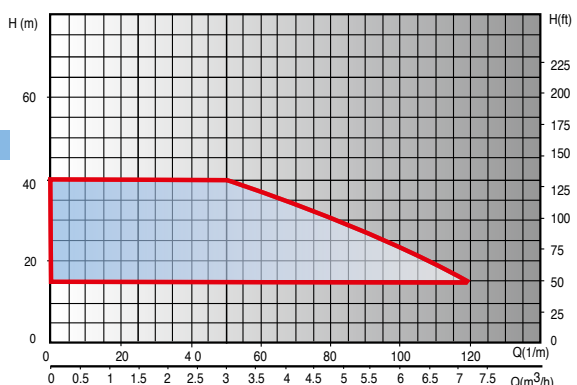


**TECNOPLUS 25** - Horizontal multistage centrifugal pump with electronic regulation ESD (Espa Speed Driver) and speed control with pressure sensor included; built in with dry running protection. No maintenance required and without water hammer in the installation.

Code	kW	HP	V	Q-l/min	H(m)
TECNOPLUS 25/4M	0.92	1.25	230	45-120	40-15m

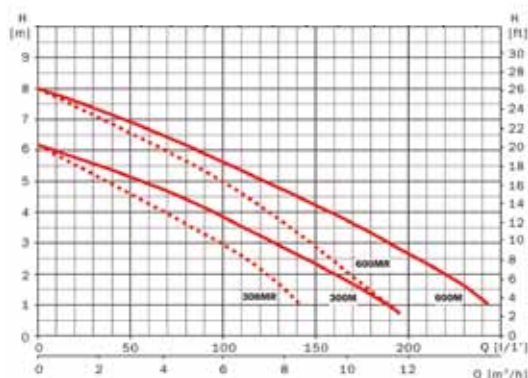
**Application:**

Compact unit with constant pressure for domestic applications without fluctuations with resulting energy saving. Easy to install. Plug & pump design.



## PUMPS

### VIGILEX 300/600



Submersible pumps, vortex system for dirty water. Continuous rated. Built-in thermal protection.

Code	VIGILEX 300MA	VIGILEX 600MA
With Float Switch	Yes	Yes
kW	0.50	0.60
HP	0.67	0.80
Supply Voltage	230V	230V
Water	Dirty Water	Dirty Water
Q-l/min	25-190	25-240
H(m)	5.7-1m	7.5-1m

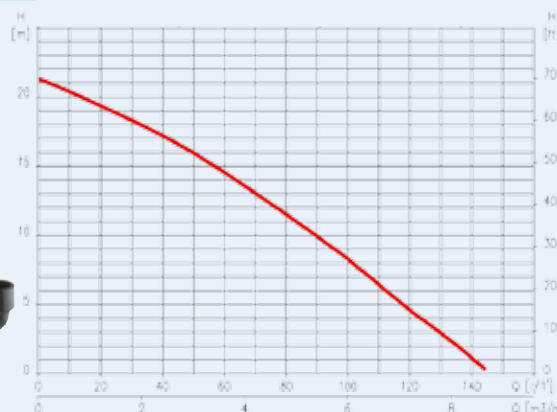
#### Application:

Drainage of sewage and dirty water, in domestic installations, operation in septic tanks and small purifying installations.

Outlet Size: 30mm

### VIGICOR 150

**NEW**



Submersible grinder pumps for sewage water, with filaments. Continuous rated. Built-in thermal protection.

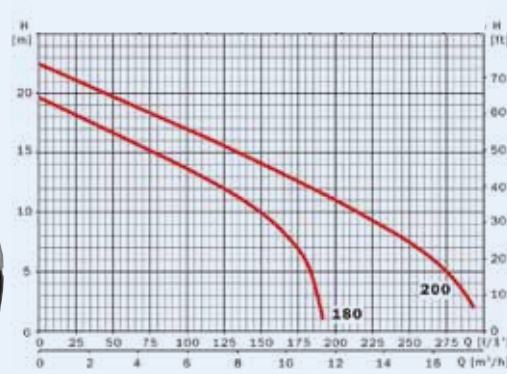
Code	VIGICOR 150MA
With Float Switch	Yes
kW	0.9
HP	1.2
Supply Voltage	230V
Water	Dirty Water
Q-l/min	10-140
H(m)	20.2 - 1.2m

#### Application:

Drainage of sewage and dirty water, operation in septic tanks and small purifying installations.

Outlet Size: 1 1/4"

### DRAINCOR 180/200



Submersible grinder pumps, for sewage water with filaments. Water cooled motor. Continuous rated. Single phase version c/w thermal protection.

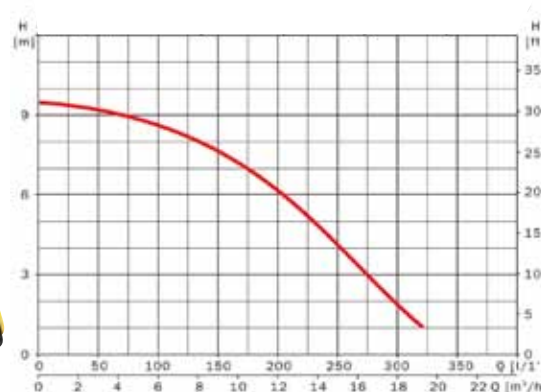
Code	DRAINCOR 180MA	DRAINCOR 200
With Float Switch	Yes	No
kW	1.12	1.25
HP	1.50	1.70
Supply Voltage	230V	400V
Water	Dirty Water	Dirty Water
Q-l/min	25-175	21-290
H(m)	18-7m	21-2.5m

#### Application:

Drainage of sewage and dirty water, operation in septic tanks and small purifying installations.

Outlet Size: 40mm

### DRAIN 100



Submersible pumps for the drainage of water without solids in suspension. Continuous rated with built-in thermal protection.

Code	DRAIN 100M	DRAIN 100MA
With Float Switch	No	Yes
kW	0.75	0.75
HP	1.00	1.00
Supply Voltage	230V	230V
Water	Clean Water	Clean Water
Q-l/min	25-320	25-320
H(m)	9.2-1m	9.2-1m

#### Application:

Drainage of infiltration water, empty swimming-pools, decorative fountains and waterfalls

Outlet Size: 1 1/4"